

TOF Calibration update

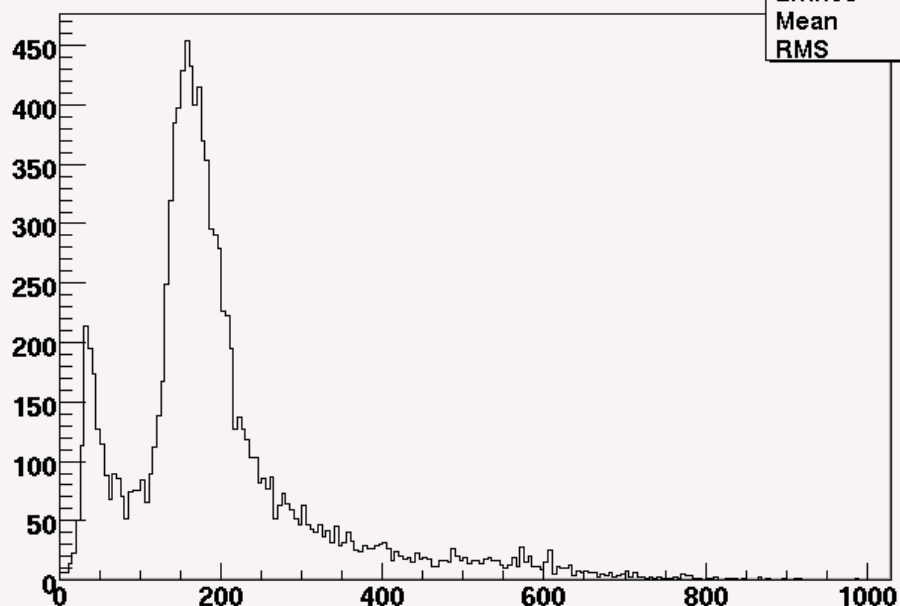
Andrew Godley

April 8th 2006

Fermilab, MIPP Collaboration Meeting

Problems

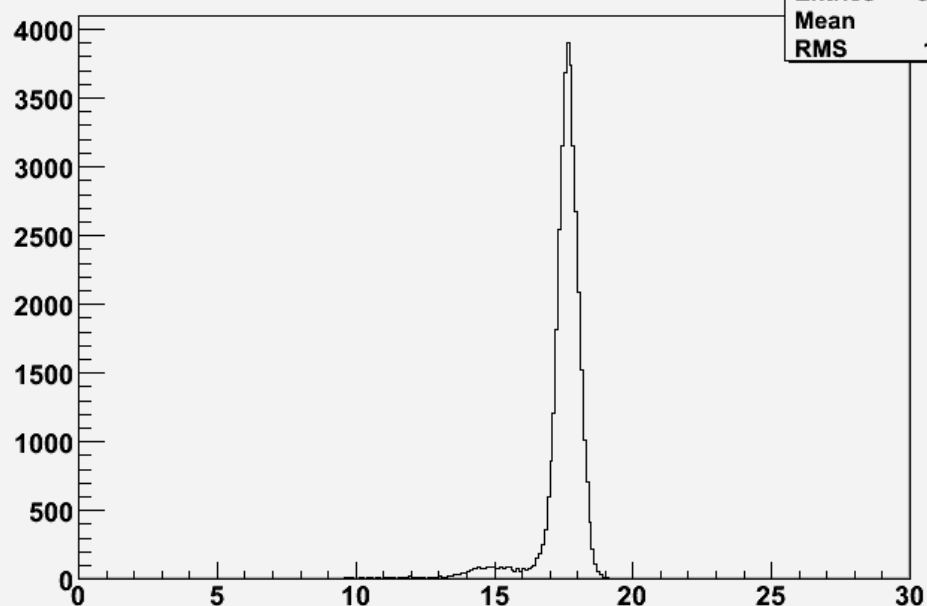
Channel 309 ADC BOT



ba309	
Entries	11190
Mean	200.3
RMS	129.5

Double ADC peak
Bad track reconstruction
Electronics gate/delays
Look at raw data
Cut lower peak for now

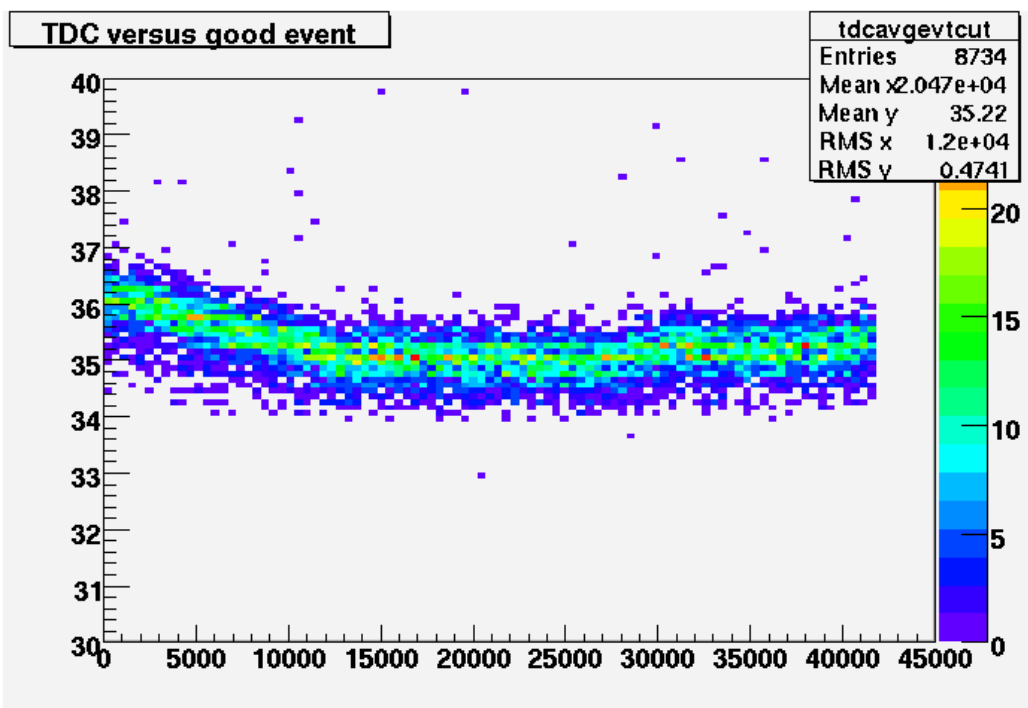
Channel 320 delays



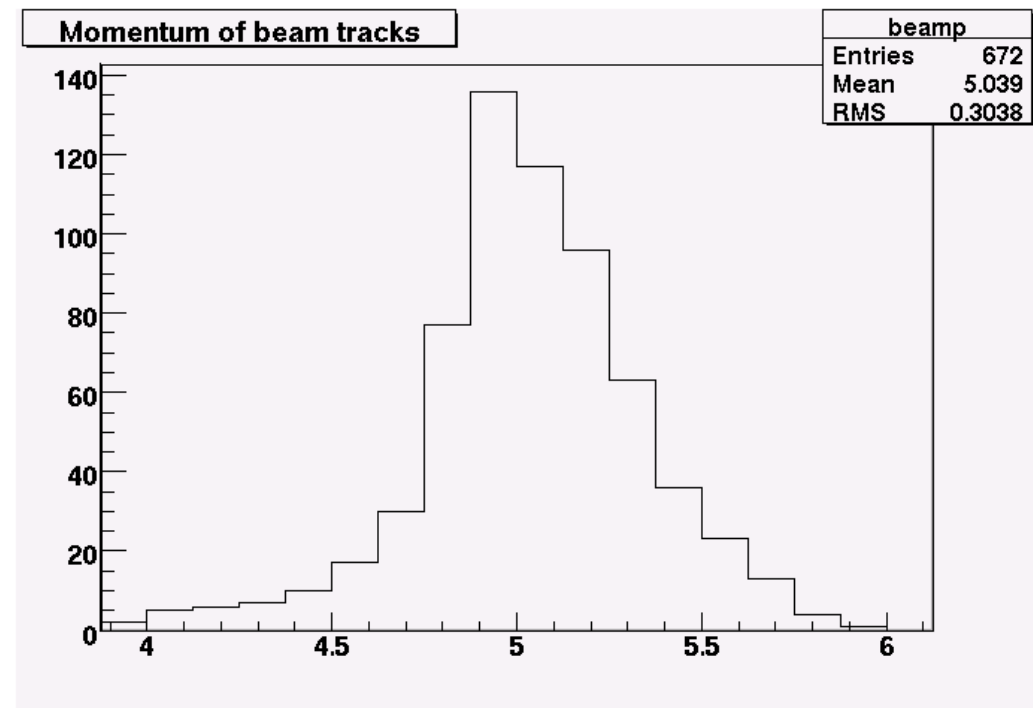
c320	
Entries	37417
Mean	17.41
RMS	1.184

Superluminals
Muon halo/beam spray coincidences
Electronic noise
Cut for now

Problems II



Temperature varying delays
Ruining time resolution



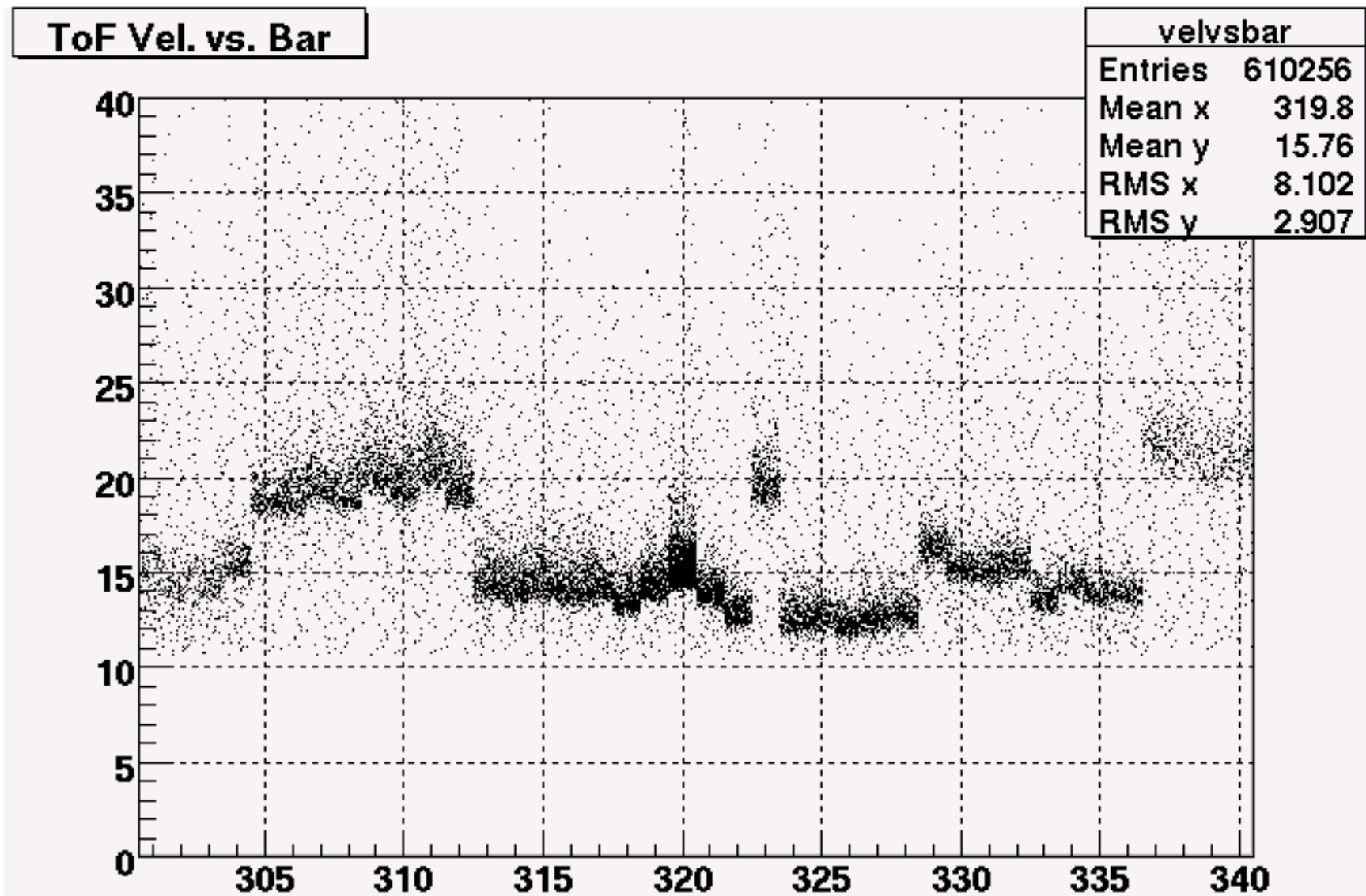
Beam resolution looks good at low
momentum

Event Selection

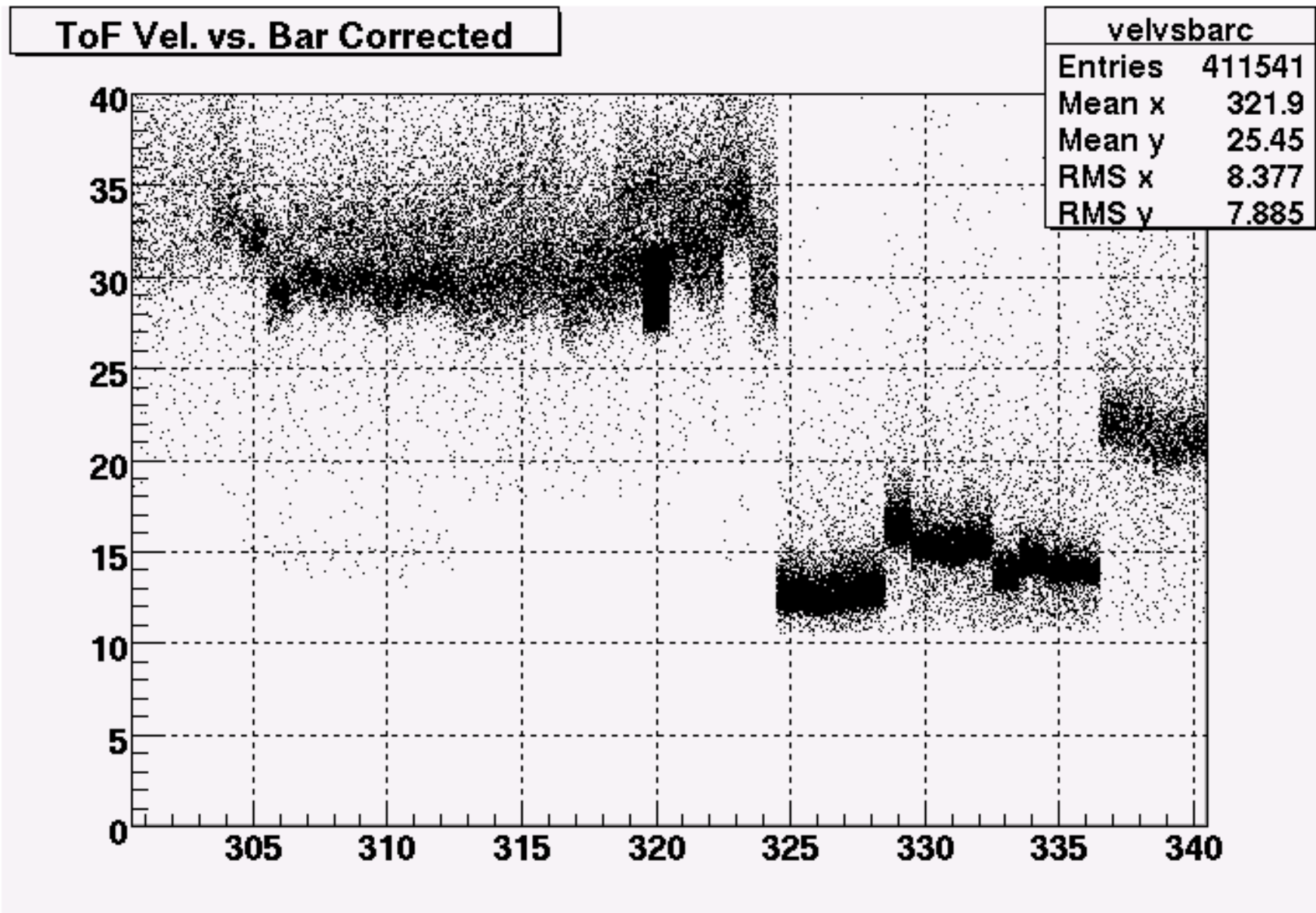
Events 585985 Since increase of HV to 880V

Cut table	# of tracks
• Total Tracks	6467475
• 1 beam track	4294059 (Skip this cut)
• TPC Hits > 1	5696639
• GoF > 0.01	3290115
• Bar ID	2290701
• Bar hit once	928171
• Bar to east not hit	815282
• Bar to west not hit	726238

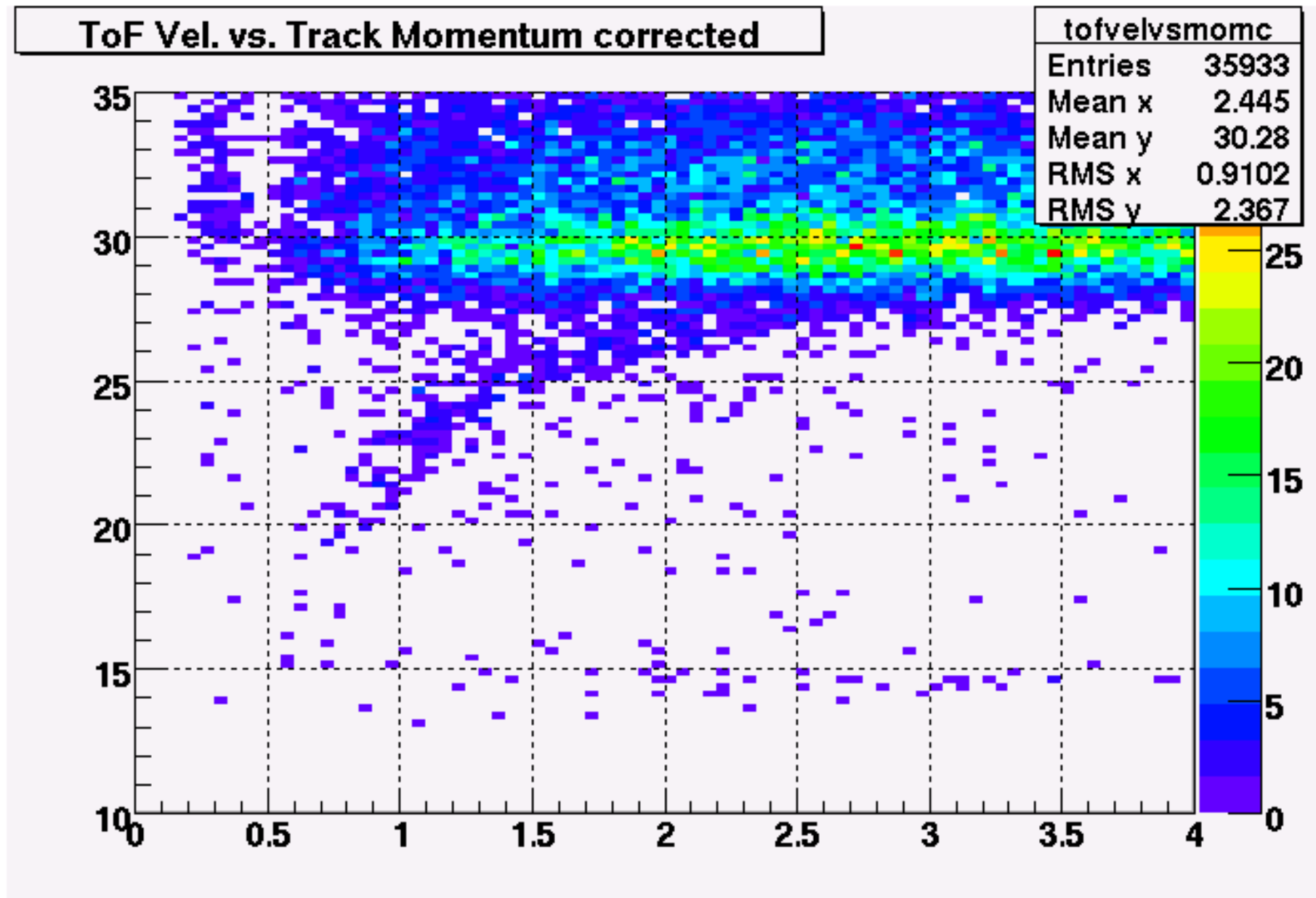
Before Calibration



1st Pass Calibration



Results



Future work

- Correct for temperature
- Search TOF hits not associated with tracks
- Automate calibration process
 - Velocity vs delay based
- DST work
 - Non-associated hits
 - T in ns not TDC counts
 - Quality flag (one track per bar)
 - Track beta
 - Particle ID